

MARCH CORPORATION  
(Rock Products Division)

1-17-94

BALD KNOLL MINE PROJECT - Kanab, Utah

"Coral Pink Shale"

The following information was obtained from data provided by four independent and certified testing firms located in Utah, Idaho, Nevada and Arizona. The data is accurate and has been compiled according to ASTM Specifications and documented as such.

The following information includes Chemical Analysis, Material Characterization and Soil Data.

Hardness - KNOOP (1,000 Gram Load) ASTM E384

The shale material hardness equates to that of limestone and marble. It is noted that the tested hardness is 100 - 200 which means that the shale will scratch glass.

Moisture Content - ASTM D2961 (.18%)

Metals - SW Methods 6010 & 7470 (PPM)

Arsenic	<5.0	Lead	<5.0
Asbestos	<5.0	Mercury	<0.10
Cadmium	<1.0	Selenium	<1.0
Chromium	<1.0	Barium	100.0

These numbers indicate low and very acceptable levels of toxic minerals and are not of any danger.

Density - ASTM C905 (2.15%)

This number indicates a very dense material which will not deteriorate in water.

Soil Data - Free Lime Level (Low)	Sodium	2.5%	
Salinity (Low)	pH -	7.70 (Neutral in acid & low in alkalinity)	
Calcium	570ppm		
Magnesium	111ppm		
Sodium	26ppm	Iron	4.9ppm
Potash	240ppm	Zink	.5ppm
Nitrogen	10ppm	Manganese	2.0ppm
Phosphorus	4ppm	Copper	.2ppm
Boron	4ppm	Sulfer	31ppm

It is noted that analysis reports on the shale material indicate that the placement of the shale near plants, grass or trees will not in any way harm flora due to the possibility of harmful minerals leeching out of the aggregate and entering into the root system of plants.

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Los Angeles Abrasion Test - ASTM C131

This test is performed on aggregate in order to determine what resistance they have to wear. In the test done on the shale material it was determined that a 38.7% loss of material was the result. This test indicated that the shale was good for roadways or other types of high traffic areas requiring an aggregate that would withstand severe abrasion.

This product will meet State Spec's for highway construction.

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The previously listed information has been provided in order to answer the most commonly asked questions about our "Coral Pink Shale" material.

Please feel free to pass this information onto your customers or to those parties requiring information for spec's on bidding situations. In the event that you would require any additional information or test results not covered in this report, please call and request that information which you require.

Our product may be ordered to size and fines requirements. Larger aggregate will also be available and may be ordered accordingly.

The "Coral Pink Shale" material is truly a unique product for landscaping requirements. Please note that this shale produces fines that make a superior bedding for the larger aggregate as well as dyes for concrete products and mortars.

"CORAL PINK SHALE" is a brand name of the March Corporation.